

What is claimed is:

1. A machine for stencil printing, configured to process stencil-making by perforating a stencil sheet by a thermal print
5 head and to process printing by pressing a printing paper against the perforated stencil sheet wrapped around a printing drum, the machine comprising:
 - a control panel for setting an ink-saving printing mode;
 - a stencil making section including the thermal print head
10 configured to perform an ink-saving stencil making corresponding to the ink-saving printing mode, and a thermal print head driving controller configured to control the thermal print head;
 - a printing section including a printing conditions adjustment section, the printing conditions adjustment section
15 configured to adjust printing conditions corresponding to the ink-saving printing mode; and
 - a control section controlling the stencil making section to perform the ink-saving stencil making corresponding to the ink-saving printing mode by the thermal print head and the thermal
20 print head driving controller, and further controlling the printing section to control the printing conditions corresponding to the ink-saving printing mode and performs the printing processing by the printing conditions adjustment section, when the ink-saving printing mode is set up via the
25 control panel.

2. The machine of claim 1, wherein the thermal print head driving controller controls a power impressed to the thermal print head and impression time of the power so that temperature difference between a temperature of the thermal print head and
5 a temperature of a heat-shrinkable film of the stencil sheet becomes small, and further controls to stop the power impressed to the thermal print head at the time when the temperature of the heat-shrinkable film reaches a melting point.
- 10 3. The machine of claim 1, wherein the thermal print head driving controller performs stencil making for non-perforation per one scanning line in the sub scanning direction of the thermal print head by controlling to stop the power impressed to the thermal print head per one scanning line in the sub scanning
15 direction of the thermal print head.
4. The machine of claim 1, wherein the printing condition adjustment section includes:
- a printing pressure adjustment section configured to
20 adjust a pressure force for pressing the printing paper against the perforated stencil sheet wrapped around the printing drum;
and
- a printing speed adjustment section configured to adjust a rotation speed of the printing drum; and wherein
25 the printing condition adjustment section adjusts the pressure force and the rotation speed corresponding to the

ink-saving printing mode and then performs the printing processing.

5. The machine of claim 2, wherein the printing condition
5 adjustment section includes:

a printing pressure adjustment section configured to
adjust a pressure force for pressing the printing paper against
the perforated stencil sheet wrapped around the printing drum;
and

10 a printing speed adjustment section configured to adjust
a rotation speed of the printing drum; and wherein

the printing condition adjustment section adjusts the
pressure force and the rotation speed corresponding to the
ink-saving printing mode and then performs the printing
15 processing.

6. The machine of claim 3, wherein the printing condition
adjustment section includes:

a printing pressure adjustment section configured to
20 adjust a pressure force for pressing the printing paper against
the perforated stencil sheet wrapped around the printing drum;
and

a printing speed adjustment section configured to adjust
a rotation speed of the printing drum; and wherein

25 the printing condition adjustment section adjusts the
pressure force and the rotation speed corresponding to the

ink-saving printing mode and then performs the printing processing.

7. The machine of claim 1, wherein the printing condition
5 adjustment section includes a printing pressure adjustment
section configured to adjust a pressure force for pressing the
printing paper against the perforated stencil sheet wrapped
around the printing drum, and wherein
the printing condition adjustment section adjusts only
10 the pressure force corresponding to the ink-saving printing mode
and then performs the printing processing.

8. The machine of claim 2, wherein the printing condition
adjustment section includes a printing pressure adjustment
15 section configured to adjust a pressure force for pressing the
printing paper against the perforated stencil sheet wrapped
around the printing drum, and wherein
the printing condition adjustment section adjusts only
the pressure force corresponding to the ink-saving printing mode
20 and then performs the printing processing.

9. The machine of claim 3, wherein the printing condition
adjustment section includes a printing pressure adjustment
section configured to adjust a pressure force for pressing the
25 printing paper against the perforated stencil sheet wrapped
around the printing drum, and wherein

the printing condition adjustment section adjusts only the pressure force corresponding to the ink-saving printing mode and then performs the printing processing.

- 5 10. A method for stencil printing of a stencil printing machine, the stencil printing machine configured to process stencil-making by perforating a stencil sheet by a thermal print head, and to process printing by pressing a printing paper against the perforated stencil sheet wrapped around a printing drum,
- 10 the stencil printing machine further including: a control panel for setting an ink-saving printing mode; a stencil making section including the thermal print head configured to perform an ink-saving stencil making corresponding to the ink-saving printing mode; and a thermal print head driving controller
- 15 configured to control the thermal print head, and a printing section including a printing conditions adjustment section, the printing conditions adjustment section configured to adjust printing conditions corresponding to the ink-saving printing mode; the method comprising:
- 20 setting the ink-saving printing mode from the control panel;
- performing the ink-saving stencil making corresponding to the ink-saving printing mode by the thermal print head and the thermal print head driving controller; and
- 25 controlling the printing conditions corresponding to the ink-saving printing mode and performs the printing processing

by the printing conditions adjustment section.

11. The method of claim 10, wherein a power impressed to the thermal print head and impression time of the power are controlled
5 so that temperature difference between a temperature of the thermal print head and a temperature of a heat-shrinkable film of the stencil sheet becomes small, and the power impressed to the thermal print head is further controlled to stop at the time when the temperature of the heat-shrinkable film reaches a melting
10 point.

12. The method of claim 10, wherein stencil making for non-perforation is performed per one scanning line in the sub scanning direction of the thermal print head by controlling to
15 stop the power impressed to the thermal print head per one scanning line in the sub scanning direction of the thermal print head.

13. The method of claim 10, wherein the printing condition adjustment section includes: a printing pressure adjustment
20 section configured to adjust a pressure force for pressing the printing paper against the perforated stencil sheet wrapped around the printing drum; and a printing speed adjustment section configured to adjust a rotation speed of the printing drum; and wherein

25 in the controlling the printing conditions, the pressure force and the rotation speed are adjusted corresponding to the

ink-saving printing mode.

14. The method of claim 11, wherein the printing condition adjustment section includes: a printing pressure adjustment section configured to adjust a pressure force for pressing the printing paper against the perforated stencil sheet wrapped around the printing drum; and a printing speed adjustment section configured to adjust a rotation speed of the printing drum; and wherein

10 in the controlling the printing conditions, the pressure force and the rotation speed are adjusted corresponding to the ink-saving printing mode.

15. The method of claim 12, wherein the printing condition adjustment section includes: a printing pressure adjustment section configured to adjust a pressure force for pressing the printing paper against the perforated stencil sheet wrapped around the printing drum; and a printing speed adjustment section configured to adjust a rotation speed of the printing drum; and wherein

in the controlling the printing conditions, the pressure force and the rotation speed are adjusted corresponding to the ink-saving printing mode.

25 16. The method of claim 10, wherein the printing condition adjustment section includes a printing pressure adjustment

section configured to adjust a pressure force for pressing the printing paper against the perforated stencil sheet wrapped around the printing drum, and wherein

in the controlling the printing conditions, only the
5 pressure force is adjusted corresponding to the ink-saving printing mode.

17. The method of claim 11, wherein the printing condition adjustment section includes a printing pressure adjustment
10 section configured to adjust a pressure force for pressing the printing paper against the perforated stencil sheet wrapped around the printing drum, and wherein

in the controlling the printing conditions, only the pressure force is adjusted corresponding to the ink-saving
15 printing mode.

18. The method of claim 12, wherein the printing condition adjustment section includes a printing pressure adjustment
20 section configured to adjust a pressure force for pressing the printing paper against the perforated stencil sheet wrapped around the printing drum, and wherein

in the controlling the printing conditions, only the pressure force is adjusted corresponding to the ink-saving
printing mode.

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